

## ABSTRACT OF THE DISCLOSURE

5 A defect inspection apparatus capable of precluding, or at least minimizing, the risk of erroneous recognition while simulating an accurate optical image from design data, and using it as reference data in masks using based resolution enhancement techniques such as phase-shift masks, or else by performing defect inspection by optically reading a pattern on a test substrate having the pattern, converting it into scanned image data for use as electrical image information, and then comparing the scanned image data with reference data indicative of an optical image obtainable from design data of the test substrate by simulation.

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